



## EPOXY RESIN MATERIALS FIELD SECTION 1039

**1039.1 SCOPE.** To establish procedures for inspection, acceptance, and reporting of Type II epoxy, Type III epoxy, polyester bonding agents for dowels and epoxy polymer concrete.

**1039.2 APPARATUS.** Appropriate sampling thief and sample cans.

### 1039.3 PROCEDURE.

**1039.3.1 Qualified Lists.** A list of qualified Manufacturers and Brand Names of Type II Epoxy, Type III Epoxy, Bonding Agents for Dowels and Epoxy for Epoxy Polymer Concrete is maintained by the Materials Division. These lists are shown as [FS-1039 Table 1](#), [FS-1039 Table 2](#), [FS-1039 Table 3](#) and [FS-1039 Table 4](#) of this Manual.

### 1039.3.2 Manufacturer and Brand Name Qualification.

**1039.3.2.1 Type II and Type III Epoxy.** If a manufacturer desires to have material added to the list of qualified Type II or Type III Epoxies, they are required to furnish a certified test report showing specific test results conforming to all requirements of the specifications for the respective material and samples to the State Project Operations Engineer-Materials who will approve or disapprove the use of the material. A one quart [1 liter] sample of component A and B accompanied by a technical data sheet and a material safety data sheet shall be submitted for evaluation.

**1039.3.2.2 Bonding Agents for Dowels.** If a manufacturer desires to have his material added to the list of qualified bonding agents for dowels, he will be required to furnish a certified test report from an approved independent testing laboratory showing specific test results conforming to all requirements of the specifications. Samples of bonding agents for dowels shall be submitted to the Laboratory for evaluation. The sample size shall be in accordance with Sec 1039.3.4.1 of this manual.

**1039.3.2.3 Epoxy Polymer Concrete.** If a manufacturer desires to have material added to the list of qualified Epoxy for Epoxy Polymer Concrete, they are required to furnish a certification letter indicating compliance with the special provision for "Epoxy Polymer Concrete Overlay", a certified test report showing specific test results conforming to all requirements of the specifications for the respective material, satisfactory evidence of prior use on similar bridge structures, and samples to the State Project Operations Engineer, who will approve or disapprove the use of the material. Current specifications for this material are in Material Special Provision "Epoxy Polymer Concrete Overlay". A one quart [1 liter] sample of component A and B accompanied by a technical data sheet and a material safety data sheet shall be submitted for evaluation.

### 1039.3.3 Basis of Acceptance

**1039.3.3.1 Acceptance of Type II or III Epoxy and Bonding Agents for Dowels.** Material on the list of qualified Type II or III epoxy or bonding agents may be accepted for maintenance and construction work on the basis of manufacturer's certification and random sampling and testing when deemed necessary. The manufacturer's certification is to be furnished in triplicate to the receiving District and is to certify that the material supplied is the same formulation as the



material tested for Manufacturer and Brand Name Qualification.

**1039.3.3.2 Acceptance of Epoxy Polymer Concrete:** Material on the list of qualified epoxy for epoxy polymer concrete may be accepted for construction work on the basis of receipt of notarized certifications, sampling as designated by the engineer, and satisfactory performance in the field. Aggregate that is approved for use in Epoxy Polymer Concrete Overlays by the State Project Operations Engineer, and which has been recommended for use by the manufacturer of the epoxy, shall be accepted based on required certifications, sampling as designated by the engineer, and satisfactory performance in the field.

#### **1039.3.4 Sampling.**

**1039.3.4.1 Sampling of Type II or III Epoxy and Bonding Agents for Dowels.** Samples are to be taken any time the certification indicates test results approaching the specification limits or any time sampling is deemed necessary. When samples are taken, the sample size shall be as follows:

Type II Epoxy

Component A - approx. 1 quart [1 liter]

Component B - approx. 1 quart [1 liter]

Type III Epoxy

Component A - approx. 1 quart [1 liter]

Component B - approx. 1 quart [1 liter]

Bonding Agents for Dowels (Bulk)

approximately 1 quart [1 liter] each of Component A & B

Bonding Agents for Dowels (Cartridge)

1 set of cartridges and a mixing tube

Samples of material in bulk form shall be submitted to the Laboratory in friction top cans and shall be properly identified as to component. Samples of Bonding Agents for Dowels in cartridge form shall be submitted as received. Use SiteManager and include complete information as to brand name, lot number, and mixing ratio of components. The manufacturer's certification for the lot sampled shall be retained in the district office.

#### **1039.3.4.2 Sampling of Epoxy Polymer Concrete.**

**1039.3.4.2.1 Epoxy.** Samples shall be taken when the total quantity of Epoxy Polymer Concrete Overlay, for all projects in combination, exceeds 600 square yards (500 square meters). If the total quantity is less than the amount indicated above, the material may be taken by certification. When sampling and testing is required, samples shall be taken at the minimum rate of one set of samples per 2000 square yards (1700 square meters). When samples are taken, the sample size shall be as follows:

Epoxy for Epoxy Polymer Concrete

Component A - approx. 1 quart [1 liter]

Component B - approx. 1 quart [1 liter]

Samples of material in bulk form shall be submitted to the Laboratory in friction top cans

and shall be properly identified as to component. Use SiteManager and include complete information as to brand name, lot number, and mixing ratio of components. The manufacturer's certification for the lot sampled shall be retained in the district office.

**1039.3.4.2.2 Aggregate.** Corresponding samples of aggregate for gradation testing shall be taken when samples of epoxy are required.

**1039.4 REPORT.** If the material is accepted in the field, it shall be reported through SiteManager. The form shall show all pertinent information regarding the material and the certification shall be retained in the district office. The report is to indicate acceptance, qualified acceptance, or rejection. Appropriate remarks, as described in [General Sec 7.1.2](#) of this Manual, are to be included in the report to clarify conditions of acceptance or rejection.

**1039.4.1** Distribution of reports for materials purchased under a Department purchase order is to be as described in [Field Sec 2001](#) of this Manual.